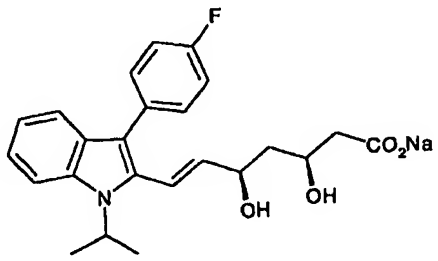
Crystalline Form of Fluvastatin Sodium

This application is a 371 of PCT/EP04/52449 filed on 10/06/2004.

The present invention is directed to novel crystalline form of Fluvastatin sodium, processes for the preparation and pharmaceutical compositions comprising this crystalline form.

Fluvastatin sodium is known by its chemical name (±)-7-(3-(4-fluorophenyl)-1-(1-methylethyl)-1H-indol-2-yl)-3,5-dihydroxy-6-heptenoic acid monosodium salt. Fluvastatin sodium is a racemic mixture of the 3R,5S- and 3S,5R-dihydroxy enantiomers and has the following formula:



Fluvastatin sodium is an inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) and is used to lower the blood cholesterol level.

Fluvastatin sodium salt is disclosed in US-A-4,739,073. In this patent Fluvastatin sodium is obtained by lyophilization. WO-A-97/49681 and its US equivalent US-A-6,124,340 describe that lyophilization of Fluvastatin sodium yields a mixture of a crystalline form, designated as Form A, and amorphous material, and disclose a new crystalline form, designated as Form B. WO-A-03/13512 discloses 4 new crystalline hydrates, designated as Forms C, D, E and F. These crystalline hydrates have water contents which ranges from 3 to 32%. The stability of these new crystalline hydrates very much depend on the relative air humdity of the surrounding atmosphere. For example, Form D is the most stable crystalline form in atmospheres with an air humdity ranging from 30 to 50%, whereas Form F is stable in atmospheres with an air humidity of up to 90%. However, there is still a need for stable crystalline forms which can be used for example in gel or wet formulations.

It has now been found that Fluvastatin sodium can surprisingly be prepared as a novel crystalline hydrate, which is stable in saturated aqueous environments. This novel crystalline